

If the appearance of these first cryptogam volumes of *Flora of Australia* were to serve no other function than to draw together a basic coverage of known taxa and provide keys for them, a valuable service would have been performed. As for this volume, a substantially better result than that seems to have eventuated.

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Welcome innovations in the first of two *Flora of Australia* Proteaceae volumes

Flora of Australia Vol. 16: Elaeagnaceae, Proteaceae 1. Available from CSIRO Publishing in hardcover (AUS\$79.95 in Australia or New Zealand, US\$79.95 elsewhere) or softcover (AUS\$64.95 and US\$64.95, respectively). Add \$6 for postage and handling if purchased direct from CSIRO.

Apart from the small family Elaeagnaceae, this newest volume of the *Flora of Australia*, the seventieth overall since 1981 and the twelfth of 47 on the higher plants of the continent itself, is given over to one family. The publication of the first volume of treatment of the Proteaceae will, with the imminent completion of its companion volume 17, herald the first of Australia's six largest flowering plant families to be covered by the *Flora* programme (Compositae, Cyperaceae, Leguminosae s.lat., Myrtaceae and Gramineae are the others). This volume deals with 42 of the family's 46 Australian genera and roughly half of its 1100 species. *Grevillea*, *Hakea*, *Banksia* and *Dryandra* remain for volume 17.

A welcome first for *Flora* users is the series of brief introductory reviews. The first covers developments in the higher classification of the family and its relationships. Evidence is accumulating for the family's early origin amongst the flowering plants and long isolation and diversification. The bulk of the diversity in the family seems represented in Australia, but the biogeography could have been more readily apparent by inclusion in the tabulated synopsis. Two new subfamilies are described bringing the number of monotypic Australian subfamilies to four. The other tribes, the diverse and often specialised Proteoideae and Grevilleoideae and the Persoonioideae, less diverse but with primitive features, extend out of the continent. Morphological variation within each tribe or subtribe to a genus level, and in leaves, inflorescences, floral and fruit organs is also briefly reviewed, as well as dispersal (all too brief), pollination (too much on insects and specific examples, too little on floral syndromes, inadequately scotched as a phenomenon, or the species visited by the insects) and utilisation. These chapters would have benefited from recruitment of other specialists and of cross-referencing to significant references in the body of the *Flora* (e.g. resprouting ability of many species, at times inconsistently given, and the trigger pollination mechanism in *Synaphaea*). Some obscure terms are not in the glossary, including *crepuscular*, *innocuous* (refers generally to harmless: far better specify what is lacking, particularly as we are told that many Proteaceae are poisonous), *oligotrophic* (as to soils: why not *poor*?). Such terms needed in the reviews should be defined there (in brackets) for ease of reading.

The several largest genera treated (*Persoonia*, *Isopogon*, *Petrophile*, *Conospermum*, *Synaphaea*, *Adenanthos*) are, apart from the first, most diverse in southwestern Australia; the eastern and northern genera have fewer species. Many new species and three new genera (including the possible "living fossil" *Eidothea* and the brazen *Megahertzia*) are described. The identification keys appear good in providing correlated characters at leads, though of course they are generally dependent on complete material. May the developing practice of devising computerised multiple entry keys become a norm! Descriptive information in the *Flora* is still limited; for example, what does the fruit of *Adenanthos* look

like? Nevertheless, this volume of the *Flora* has a solid feel to it through the introductory review and recent innovations of increased discussion and sometimes description length (above the arbitrary and prohibitive 100 words or much less of the past) and the narrower blank margins around a closer text. Detailed discussion in the main flora text, e.g. under *Persoonia gunnii*, is a refreshing response to editorial requests, adding considerably to the *Flora*'s usefulness and interest, but perhaps reducing even more the chances for publication of the much-needed monographic detail in these groups. Line drawings are of generally a high order as are the colour photographs, with increased clarity through use of flash. However, the editors could consider a consistent series of line drawings, by the one artist in consultation with specialists, to facilitate diagnostic comparisons between genera.

Noteworthy from surveying the distribution maps is the preponderance of species confined to small areas of the continent; very few are widespread. However, the inconsistency in presentation, with dot points in some genera representing grid squares, e.g. in *Persoonia*, in others localities, led to misconceptions of relative abundance.

There are 45 contributors to the volume. Of the authors of the various treatments most are staff of herbaria and universities and it is welcome that a similar level of input by these institutions over the history of the *Flora of Australia* is now being mentioned in the acknowledgements of each volume. But can this support continue indefinitely from herbaria struggling to resource the increased and ever urgent demands for an accurate taxonomic picture of our flowering and lower plants, as well as their own programmes for imparting current knowledge on the flora? The two Proteaceae volumes are fortunately based largely on revisional studies. However, of concern is the potential compromise of this revisional base through lack of resources. It is therefore unfortunate then that the prime source of external funds for revisional work is being directed more and more towards taxonomic work constrained to serving the completion of a first edition of the *Flora of Australia* within a foreseeable time. The resourcing of increased revisional research in the Australian flora needs to be addressed urgently. Revisions have produced substantial changes to concepts presented in our national and regional floras in recent decades. Valuable as a broad overview of the Australian flora is, the quality demanded of many decisions being made on the Australian environment increasingly falls short through lack of in-depth taxonomic knowledge potentially attainable for many plant groups.

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